



The SIMEX Series 2019

Evaluation Report

2019 Simulation Exercise
May 14th 15th & 16th



OFFICIAL

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1.1 PREFACE

The Leading-Edge Programme is a global initiative of the United Nations Office for the Coordination of Humanitarian Affairs (OCHA), which aims to foster year-round collaboration between networks and technical experts in crisis preparedness and response to identify common challenges and implement solutions. One of the networks, the Simulation and Training Network (STN) has come to establish a consensus that significant space for improvement exists throughout the thousands of simulation exercises held across the world every year.

The nature of response differs by region, disaster type, and institutional scope (international, regional, national) thus depriving uniformity from simulation guidelines. Improving consistency among institutional training of humanitarian and emergency response personnel can lead to improved interoperability among responders, in turn significantly improving the efficiency of coordination among these varying levels of stakeholders.

The SIMEX Series vision is aligned with the STN to improve efficiency of emergency preparedness and response through high quality training standards, coordination amongst local, national and international response teams and the utilisation of recognised simulation platforms to consistently evaluate, reinforce and improve operational guidance in coordination with key stakeholders.

The exercise in 2019 is was led by the University of Portsmouth (UoP), Hampshire Fire and Rescue Service and the University of Liverpool in London (UoL), in close partnership with 44 key organisations who have been engaged in the planning from concept phase in June 2018 through to the execution of the event in May 2019.

1.2 REPORT OVERVIEW

As part of the planning activity, a bespoke evaluation framework was developed, in collaboration with the University of Liverpool's Critical & Major Incident (CAMI) Psychology research group. Drawing on extensive research and experience relating to training development, decision making, multi-agency cooperation, casualty management and acceleration of expertise, a tailored evaluation approach was designed to identify good practice and capture learning along this year's exercise aims.

This evaluation report combines observations and responses collected prior, during and after the exercise, drawing on the experience of responders, role-players, partners, external observers and stakeholders. Drawing on a wide range of views and assessments relating to the exercise planning and delivery, this report will outline the main insights gained, set out clear recommendations and review the impact that this year's SIMEX Series exercise had on all parties involved.

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2. SIMEX19

2.1 AIMS

For the SIMEX Series exercise in 2019 there were primary coordinated learning aims facilitated by secondary scenarios on the both the National and International exercises, each with various activities.

Primary Exercise Aims:

- The development of international and national preparedness and response capacity;
- The promotion of coordination of humanitarian assistance, emergency response, research and education;
- The evaluation of the disaster management systems presented by the participating organisations;
- The promotion of effective collaboration, communication and interoperability between emergency response organisations; and,
- To provide a platform for the evaluation of emerging technologies.

2.2 SCENARIO

As in previous years, SIMEX19 consisted of two exercises, with teams and arrangements in place contributing to activity and scenarios for both settings. The National exercise took place on Tuesday 14th May running from 10:00 to 16:00, with some activities taking place before and after the main exercise, in support of individual organisation's learning objectives or in support of the exercise scenario. The International exercise took place from 11:00, on Tuesday 14th May to approximately 15:00, on Thursday 16th May.

National

The initiating event for the National Exercise was based around a slow-moving storm system which impacted the South Coast of the UK. The storm system brought high winds, heavy rain, storm surge with resultant pluvial and fluvial flooding. Storm conditions were such that there was expected to be widespread damage.

During the national exercise, local Cat 1, Cat 2 and voluntary responders were faced with a series of injects associated with this situation. They included incidents at which there were casualties trapped and injured by flood water or affected by storm surge and a significant number of other affected persons that had lost their homes to the situation. Additionally, there were environmental issues caused by the storm including damaged infrastructure such as water purification plants and pollution problems in water courses. The scenarios were designed to ensure that Cat 1, Cat 2 responders and voluntary agencies all worked together utilising their various command and coordination structures.

International

The international exercise was based on the same causative factors as the national exercise but in this case, affecting the fictional country of Mas. For this exercise this country had requested international assistance in the form of Urban Search and Rescue teams, Emergency Medical Teams and other humanitarian aid organisations.

During the exercise these organisations were required to respond and mobilise to the country, assess and prioritise the situations that were encountered, providing the most effective relief to the affected country in a coordinated fashion. Situations included many injured casualties in large-scale structural collapse, landslide and large flooded areas. There were also several groups of internally displaced people and refugees from other affected countries, all of whom had lost their homes and were in need

of immediate help, with planning for longer term humanitarian aid being paramount. As with the national exercise, many of the scenarios were designed to ensure the various responding organisations collaborate to achieve maximum effectiveness.

2.3 PARTICIPANTS

The following organisations were associated with SIMEX19:

Lead agencies: The organisations responsible for the planning and implementation of the exercise.

- THE SIMEX Series
- University of Portsmouth
- Hampshire Fire and Rescue Service
- University of Liverpool in London

Supporting organisations: Other organisations that supported the implementation of the exercise and, without which, elements of the exercise would not have been possible.

- Department for International Development (DFID)
- The Rapid Relief Team
- Basingstoke College of Technology
- Brockenhurst College
- University of Manchester Humanitarian and Conflict Response Institute
- The Met Office
- XVR Simulation
- Delft University of Technology (TU Delft)
- Invictus Pro
- Broadnet
- Portsmouth City Council
- Portsmouth Guildhall
- Peter Ashley Activities Centre

Other participating organisations: These are the organisations sending playing teams and personnel to participate and / or observe.

International

- UKMed
- Tearfund
- ServeOn
- Japanese International Cooperation Agency
- Search And Rescue Assistance In Disasters (SARAID)
- Associated Media International
- SPEAR
- UN Simulations and Training Network
- EVOLSAR
- UN Disaster Assessment Coordination (UNDAC) Team
- Sphere
- UK ISAR team
- CBM
- MapAction
- Dokuz Eylul University, Turkey
- 4x4
- University of Philippines in Manila

National

- British Red Cross
- Raynet
- Serve On
- Environment Agency
- Southern Water
- HantSAR
- Queen Alexandra Hospital
- Hampshire Search and Rescue Dogs
- Public Health England
- Hampshire Fire and Rescue Service

3. EVALUATION FRAMEWORK

The evaluation framework, working against the core exercise aims and focusing on a multi-level capture plan during the exercise, collected data under three key strands:

SME Observations

Drawing on a selected roster of national and international subject matter experts (SMEs), we deployed various teams of observers and evaluators throughout the live exercise. Using a tailored observation framework – combining existing templates with established research practice – evaluators across the sites were able to draw on their specialist expertise and capture observations relating to specific interactions. This allowed us to highlight good practice, identify areas for development and showcase key performance examples across various command levels and all agencies involved.

Public Management

Throughout various stages and areas of the incident scenario, individuals played the roles of casualties, victims and members of the public, supported by a comprehensive role-player management programme. Drawing on their first-hand experience of the deployment, interaction and performance of responders from across the emergency services and specialist agencies, we captured a broad range of perceptions and experiences during the exercise. This allowed us to provide a more comprehensive and dynamic evaluation, going beyond traditional performance indicators, adding a rich reflection of individuals' experience and interaction with front-line responders.

Self-Reflection

Making sure individual participants also get an opportunity to reflect on their experience and provide feedback on the exercise, we captured their views both before and after the exercise. Tailoring questionnaires for responders deployed to the scenario and individuals playing various roles during the exercise; the aim was to assess the impact participation had on their views, opinions and perceptions. This allowed us to consider the exercise within their wider personal and professional development process, looking at things gained and areas worth expanding on in future events.

Every year we also include more targeted and focused evaluations, either in the form of stand-alone projects or as part of ongoing internal review processes. Insights from these are, where suitable, integrated into the full report with clear references to more in-depth documents produced by partner organisations – access to these will be managed by the individual agencies.

Finally, as part of the ongoing development process driven by The SIMEX Series, the framework also captured observations on the wider design, delivery and evaluation of full-scale exercises.

Training & Learning

As the exercise was intended to provide a training and development platform for responders and agencies, it was essential to ensure that the design, delivery and engagement throughout the scenario were conducive to this. Working closely with all the agencies involved, the goal was to better understand how these simulated environments push responders' competencies and abilities, developing confidence and accelerating expertise. This process is not limited to those agencies deployed, but also provides benefits to participating members of the public, as well as observers and partners agencies, building relationships and driving engagement, resulting in more confident and resilient communities.

4. EVALUATION

The report focuses on providing a high-level review of observations, reflections and feedback captured throughout the exercise, without naming organisations or agencies. This is done against an expectation of self-identification, where individual teams and organisations can relate to individual descriptions based on the content, space and nature of observations and recommendations. Based on this model, the evaluation team has made information available to individual organisations and agencies under the following conditions:

- 1) Where observations made were safety critical and raised issues relating to duties of care – this was done during the exercise, via Directing Staff, or through the ExCon team after the exercise.
- 2) Where organisations or agencies approached the evaluation team, based on particular observations or recommendation – this allowed for a more detailed review of the information captured during the exercise, in order to identify key learning and address specific issues.
- 3) Where issues were raised which related to multi-agency coordination and cooperation, and several organisations requested additional information – here key observations were communicated to those involved, and subsequent discussion facilitated and supported by the evaluation team, if required.

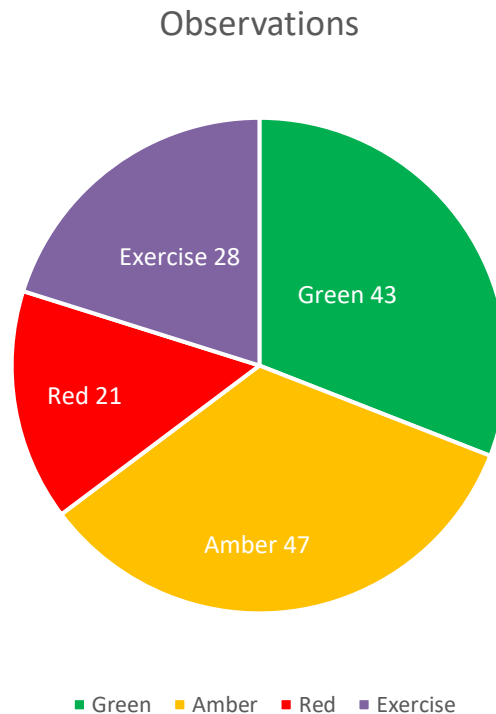
This approach was chosen to respect commitment and open engagement across all partners, while ensuring that lessons are identified, and recommendations exchanged across the network. The main goal is to create a safe learning environment, where organisations are able to test their capabilities and review their deployment in multi-agency settings.

4.1 SME OBSERVATIONS

Across the three days of the exercise, we collected 139 observations from evaluators deployed across all sites. They represented a wide range of areas of expertise and experience and were briefed jointly on the main activities of the exercise and particular elements within the scenario. They received detailed instructions on the evaluation framework, instructed to provide sufficient information on their submissions, and drawing on their expertise to reflect, assess and evaluate the activity they observed. Encouraged to look beyond the more technical abilities – as these were best assessed by team leaders and trainers embedded within individual agencies – evaluators were tasked to look out for good practice, highlight areas for development and review engagement across agencies and stakeholders, as well as the members of the public and individuals affected by the simulated incident. Further, using their own reflections as a reference point, evaluators were encouraged to be solution-focused when offering recommendations, while also providing feedback on the wider exercise delivery.

A caveat to note, before outlining the insights gathered, relates to the lack of targeted distinction between national and international deployments. As teams transitioned from one scenario to the next, most of the observations blended into both, and the overwhelming majority of the evaluation focused on international activity as it occupied the most time across the three days. Further, due to the lack of sufficient evaluators to be deployed to all sites and the majority of them coming from international agencies, there was a heavier presence on activity relating to that element of the exercise. While this is reflective of the natural balance of the exercise, we have done our best to make sure that observations relating to the national component were also included – highlighting the importance of ongoing engagement across all sectors and ensuring the opportunities of such exercises are maximised.

Figure 1 – RAG distribution of the observations submitted by the Evaluators, as well as subset relating to exercise feedback (although other observations also included exercise-related comments)



Evaluators were asked to submit descriptions of situations they observed to provide some context, with a corresponding rating on a RAG scale – **GREEN** (“Good or Satisfactory performance with no major caveats.”), **AMBER** (“Adequate performance but with some caveats and areas for change/improvement required.”) or **RED** (“Inadequate performance with areas requiring significant change/improvement.”). These were accompanied by an assessment and rationale for their rating and, where appropriate, with a broad recommendation or suggestion as to how to address this in future deployments. Additionally, evaluators also logged submission relating to the **EXERCISE**, in the form of feedback on the design and delivery, as well as any points relating to the injects or specific scenarios.

These submissions were reviewed and organised against a broad set of themes, focusing on a wide range of aspects relating to deployment, multi-agency operations and task-related activity. Note that some observations and assessments covered several areas or aspects within the exercise, while others addressed similar observations. The areas covered across all the ratings were grouped under the following themes:

Resources	observations relating to facilities, staffing and overall resourcing arrangements, as well as general comments on equipment and utility.
Communication	observations relating to communication and information exchange during the simulated incident, covering both intra- as well as inter-agency arrangements.
Coordination	observations relating to coordination arrangements, multi-agency deployment and collaborative activity.
Procedural Guidance	observations relating to procedural guidance and standard arrangements at various stages, including comments on protocols.
Engagement	observations focusing on direct engagement and interactions between responders and agencies deployed to casualties, victims and those affected by the simulated scenario incident.

Below is an overview of the key observations submitted against the three rating levels and organised according to the themes outlined above.

RED

Resources

- Lack of suitable hygiene, safety and waste disposal equipment, at the very early stages of deployment – although this improved and was remedied as the incident progressed.
- Poor provision of rest and break facilities, as they only emerged slowly at latter stages; this was also reflected in the latter use of the VACC tent for rest and breaks, rather than a purposely established coordination centre.
- Discrepancies around procedures and use of equipment, particularly around climbing deployment, resulted in significantly different approaches, which raised some safety concerns.

Communication

- Lack of multi-agency information exchange, due to delays in arrival and setup; particular around a central point of contact and coordination space (see below).
- This was further reflected in the failure to report and share incidents (and subsequent updates) across agencies, leading to a lack of situational awareness and, as a result, of teams not being deployed.
- This also resulted in teams not being aware of locations and incidents at various stages or deploying with a poor understanding of the incident (despite information being available with other agencies); again, being reflective of poor coordination at the early stages (see below).
- When communicating tasks during briefings there was a lack of confirmation and clarity, leading to poor follow-up and updates being shared with others.

Coordination

- The slow setup of central coordination arrangements significantly affected communication and wider situational awareness; this remained an issue at later stages, despite clear improvements.
- The lack of clear grip and leadership from central coordination teams resulted in information not being gathered and/or communicated, as well as asset deployment being delayed (or initiated without other agencies being aware of it).
- While this resulted in good initiative being shown by several agencies, the lack of a common operating picture / Commonly Recognised Information picture persisted throughout the exercise.
- This was reflected in some agencies either not deploying at all or being under-prepared or uninformed as to the task at hand and resources available to draw on; often resulting in poor engagement with victims and casualties (see below).

Engagement

- There were several instances where refugees and IDPs reported poor interactions with specific agencies; despite repeated requests and approaches from individuals, teams within agencies failed to either engage with them in any meaningful way or were overwhelmed by the requirements (possibly unaware of the full scope of the situation or instructions).
- At other areas, while there was good early engagement with casualties, there was a distinct lack of after-care and follow-up once they were extracted and moved to safety; again, observers also pointed out that while the early responders re-deployed, other agencies (who were available,

but possibly not aware) could have been drawn on to assist and provide further support for the casualties.

- Security lockdowns were not taken seriously by all, resulting in confusion and variations in expectations and engagement. This should be considered for key injects and followed up with team leaders and Directing Staff, to ensure key learning is raised and discussed.
- This lack of engagement was also observed between agencies, where even by day 3 certain activities and tasks had no clear ownership or certain areas had no responsibilities assigned

AMBER

Resources

- Proactiveness of staff resulted in specialists doing more menial tasks (e.g. surgeon cleaning stretcher), which further raises potential issues around decontamination or more effective pairing of available resources.
- At times patients were moved without going through the full procedural cycle (e.g. use of stretchers; movement of patients), which might give an inaccurate reflection of resources and equipment, missing potential pressure points.
- Shortcuts during early triage (e.g. using substitute equipment) might again lead to inaccurate reflections of readiness and capabilities. Similarly, the need for improvisation should come from lack/limited resources, within a purposeful context to create pressures in the system.
- Clear staff structure is important, so patients know where they are in their treatment process and who to turn to in cases of concerns. While the dynamic structure might work for the teams and be born out of operational necessity, patients often feel lost and their (changing) requirements might not always be met.
- Ongoing communications issues hampered some transport deployment, but teams demonstrated good contingency planning and resorted to alternative channels.

Communication

- The lack of central information exchange frameworks left some agencies unaware of meetings times or clear agendas; reflected also in updates not being tracked or requiring confirmation, resulting in duplication and redundant deployment.
- Briefings and information during meetings were more comprehensive over time, but the lack of clear confirmation or review system meant contradictory/inaccurate information was not challenged or updates were lost.
- While deployed teams encountered distressed individuals (reflective of much-improved briefing to role players) at camp, they quickly were overwhelmed and decided to retreat; while this was a good in-situ assessment based on risk and capabilities, this was also reflective of not having prepared or drawn on other organisation's information before deployment.
- Communication with casualties should always be clear and directed (especially if it relates to Health & Safety issues); important to differentiate between instructions in-character & out of exercise, ensuring feedback & learning is accurate.
- While coordination meeting was open, information was managed and disclosed against previous advice of not to do so (i.e. mention of ransom, potentially causing panic). Communication was missing any clear guidance on sharing and dissemination, pointing to the need for more assurances and instructions.

Coordination

- Despite plenty of content and background relating to the country available on the system, participants failed to use/draw on it throughout the early stages; mostly due to central command

not providing clear instructions and tasks during briefings, subsequently resulting in poor drive and engagement across agencies, and ultimately a distinct lack of urgency.

- Due to the lack of command experience, the training advisors had to take on more active roles, in order to progress the scenario and maintain narrative momentum.
- Some teams seemed overwhelmed with the number of casualties they were processing (although they showed great resilience and effort in dealing with sudden influxes), while other agencies remained inactive or were not drawn on; pointing to a potential lack of coordination and central review of resources and deployment.
- An increase in leadership and structure demonstrated, ensuring information flow was improved; Still, clearer tasking, especially for multi-agency work, would encourage close cooperation – avoiding silo activity.
- Nonetheless, in moments of potential conflict and shortcomings, the lack of command lead to complaints and ongoing issues not being addressed.
- Sub-tasking and parallel meetings on specific topics drove better and more targeted coordination, but these emerged organically (rather than being explicitly directed or coordinated); still reflective of a lack of 'grip' and ownership.
- In several instances, following briefings and meetings, it would have been recommended to review situational awareness and next activities – guided by clearer leadership – to confirmed agreement and consider ongoing objectives.

Procedural Guidance

- While the airport scenario provided good opportunities for procedural review, some of the documents/forms could have been completed beforehand, using the time to review learning and assess issues (within agencies, or as part of a broader review of procedures); this also raised the question about making this task more/less difficult, depending on exercise aims.
- Deceased patient was dealt with outside of tent, as the inject provided a unique opportunity for wider learning and other staff to review their understanding of relevant procedures; some staff was unsure about next steps or decided to focus on work at a different location.
- During more technical rescue procedures, international teams were able to compare differing approaches and guidelines; while this is encouraged, issues around suitability and capability of gear should ultimately be discussed against the required H&S standards maintained across the exercise.

Engagement

- Despite clear and distinct behaviour from refugees, some responders failed to engage with IDPs and the wider setting; potentially due to lack of expertise or being overwhelmed by the situation, they responded out of exercise rather than addressing the issues raised or seeking further advice.
- While teams and individuals responded well to challenging situation (e.g. hostage incident), aided by the realistic role-players, the large number of observers and staff present quickly broke the immersion.
- More normal (non-critical) patients arriving or present at hospital (e.g. using all available space & facilities) would have helped in increasing pressure and provided more activity (or lowering staff numbers / including other injuries – seizures/sepsis – played out by experienced RPs); anything to better balance pressure and requirements.
- Relating to the improved balance of resources and requirements, this would also provide an opportunity to engage other teaching/training departments, maximising the opportunity; although this would need to be considered against the agreed SIMEX19 objectives.
- While some scenarios benefitted from realistic and engaged patients, it would be helpful to re-use or deploy nurse-actors to other sites, to benefit from their knowledge and experience.

GREEN

Resources

- Efficient setup of physical spaces and good distribution of forms and documents across the tents, ensuring everyone has required materials as soon as the site was formally established.
- Well organised, good management of team members and fluidity in assigning/changing roles as the situation developed.
- Most scenarios were dealt with efficiently and quickly, aided by a good level of deployment and resourcing; even leading to idleness for some, due to a lack of low-level tasks.
- As part of coordination meetings, tools and systems were tested, and pros/cons openly discussed; open exchange about capabilities and alternatives available.

Communication

- Effective use of maps, to share details and information; in discussions issues and considerations were raised around 'accuracy' of information, and how to display it (i.e. shared, but caveat placed on some details).
- Teams dealing with casualties and priority tasks still ensured to communicate with both casualties and by-standers in a clear and directed manner, not afraid of being firm and clear in their responses.
- Even in extreme settings and while completing essential rescue tasks, teams still ensured to maintain communication with casualties; not only focusing on immediate needs, but also gathering information on incident and other's injured.
- Clear information and incident details were passed on to coordination teams following extractions, making sure a full picture could be established (incl. numbers, injuries, locations); this resulted in team leaders regularly asking for updates as the deployment progressed.
- Regardless of capabilities, nurses were clear and open with casualties (even when admitting shortcomings); reflective of the supportive staff, allowing for on-the-spot learning.

Coordination

- Even before command structures were in place, there was a great coming together of organisations on the ground, sharing space and resources; there was a lot of information gathered in these early stages, that would have been very useful once coordination teams were established and in place.
- First coordination meetings provided a comprehensive overview of agencies and capabilities present, identifying gaps and requirements; this was slightly weakened by the lack of follow-up and monitoring of these, as evidenced by latter briefings.
- Regular 'huddles' of various teams/organisations, to review situation and plans.
- Further evidence during deployment on the rubble, via good and effective sharing of information and tasking, conscious of changing needs and demands (balancing activity for everyone involved).
- Evidence of good multi-agency coordination, confirming assessment and deployment; demonstrating great care and attention to casualties' needs and requirements, throughout the extraction process, and passing on information to subsequent teams and organisations.
- Towards the latter briefings (Day 3) the command teams were pushed by the national representative, which allowed for organisations to consider key issues and challenges; some topics might have emerged more naturally, but the time constraints created a good space for issues to be tabled immediately, to which organisations responded well.

Procedural Guidance

- Teams within the airport scenario demonstrate a wide range of approaches and procedures, responding dynamically to the issues and challenges presented to them; commended across the board for their interaction and attention to detail, this was an aspect uniquely suited for the scenario.
- In response to delays, organisations used the opportunity to exchange knowledge; this allowed them to review their usual procedures in a more explicit and reflective way, aiding training and learning.
- Even in instances where responders lacked confidence, teams and staff worked well together, in an open and collegiate way; established training environment and support structures provided nurses with added confidence boost.

Engagement

- There was a good response and assessment of arriving casualties, aided by larger numbers of staff available at early stages; this healthy availability translated into significant time dedicated to engaging with individual casualties.
- Despite being faced with disruptive and difficult casualties, the teams showed restraint and remained focused on their priorities; even during tense/dangerous situations (i.e. while being 'attacked' by refugees) staff remained calm and respectful, ensuring casualties were dealt with.
- Clear communication with casualties, drawing on their friends for assistance, demonstrated good empowerment and resource management.
- Clear channels of communication, through an identifiable point of contact, facilitated transport and movement through IDP/refugee blockage; early setting of boundaries and limitations allowed for behavioural contracts to be agreed upon.
- Teams were open and transparent about the triage process, explaining to casualties the procedures and next steps; reflected in efficient systems to log patients through hospital and discharge.
- When dealing with minors/children there was early recognition of need to keep adults together with children; demonstrating excellent situational awareness, treating everyone with dignity and respect.
- In response to delays, organisations used the opportunity to actively engage with the role-players out of exercise; this allowed them to share some of their activity and build on community engagement.

These observations provide an overview of the key reflections and comments captured by the evaluators throughout the exercise, showcasing the range of capabilities and competencies on display in response to the challenges presented by the simulated incident. While not all submissions are listed here, this represents an accurate and comprehensive reflection of the activity observed across the three days. The following sections provide more targeted and focused observation, drawing on casualties in-situ during the scenario, as well as reflections from responders and role-players, providing additional dimensions to the kind of insights that can be gathered during full-scale exercises.

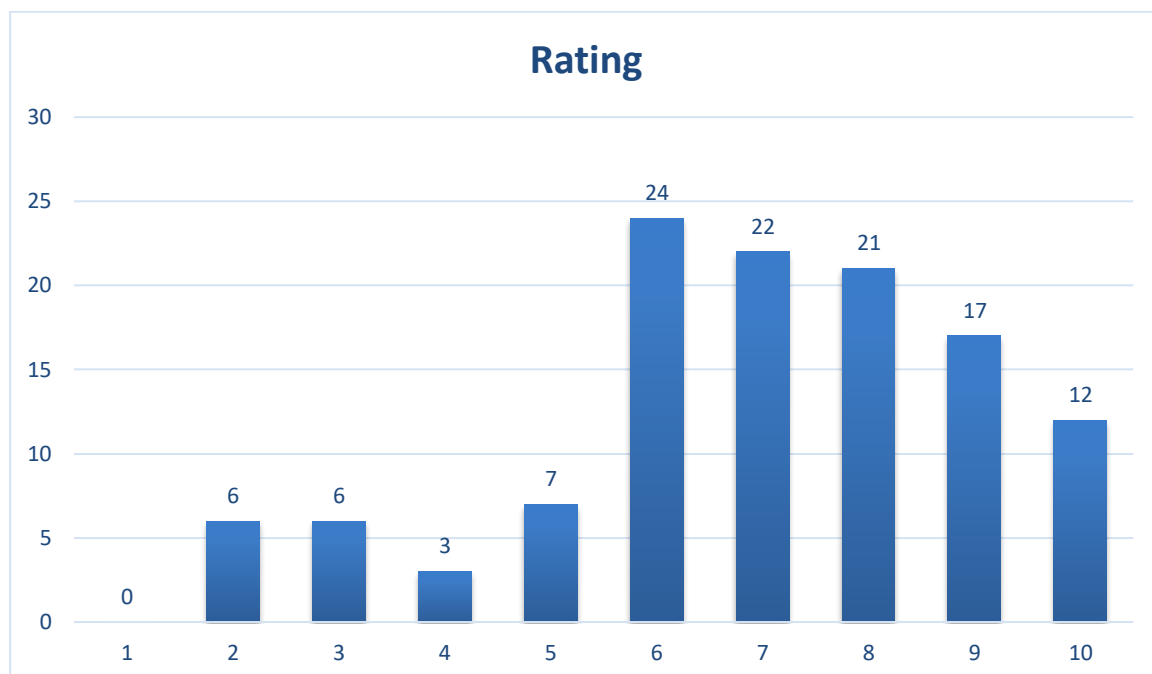
4.2 CASUALTY FEEDBACK

Unique to the exercise has been the opportunity to engage with role-players who acted as casualties, international displaced persons (IDPs) and disaster victims during the simulated incident. This has allowed the report to offer an insight into how well casualties felt that responders dealt with them, and how this impacted on their perceptions of individual teams, response organisations, and the exercise as a whole. This analysis enables exploration of areas of success as well as points where further training and development can be identified.

To gather this information, individuals acting as role-players during SIMEX19 were invited to complete short surveys throughout the exercise, asking them to reflect on how they had been treated by responders during the various scenarios. In total, there were 125 responses to the survey. Role-players were asked to identify the type of casualty they had acted as, providing some information about their character and profile. As this was posed as an open question, this made grouping of respondents into distinct categories difficult. These findings therefore reflect the experiences of those acting as medical casualties, international displaced persons and victims of disaster together.

Participants were asked to indicate how they would rate (on a scale 1-10) their overall interaction with responders, with an average score of 6.92 out of 10. While over half of the role-players gave scores of 7 or higher, there were still a small number of low submissions.

Figure 2 – Summary overview of rating for the overall interaction of the responders with the role-players' character



These scores indicate that, on the whole, casualties felt responders had performed to a good standard. However, the bulk of responses indicate that there was at least room for improvement, with some casualties feeling the response was below average or poor. Alone, however, these overall scores tell us little about which areas were problematic. To gain a better insight and build on existing guidance around front-line communication and interaction during emergencies, role-players were asked a series of questions looking at desirable behaviours and the impact they had on their sense of safety and reassurance.

HELPS Strategies

Research tells us that casualties want the following from responders during the early phases of emergencies: **Honesty**, **Early** information that comes in **Little** bits (but often), where they (the casualty) can be made to feel **Proactive** in helping themselves and others, and where the communication about the event is **Sustained** throughout (see *HELPS* mnemonic). Overall, during SIMEX19 casualties themselves felt they were treated in this way but there was significant variation across the individual components. In particular, casualties felt the two criteria most lacking related to proactive and sustained

interactions. Moreover, research from previous exercises shows two primary styles of effective interactions with casualties: (i) offering *reassurance* and creating a calm atmosphere, and (ii) *authoritative direction* to provide clear and honest instruction to ensure safety. Thus, casualties do want the ‘soft’ empathic skills, but they also want firm, clear and non-ambiguous direction and professionalism.

Table 2 – Summary overview of HELPS strategies as experience by role-players

HELPS Strategies	Ratings				
	1	2	3	4	5
Being Honest with casualties, victims or refugees.	2	9	22	42	42
Making sure information is given as Early as possible to casualties, victims or refugees.	1	17	35	33	23
Communicating Little but Often with casualties, victims or refugees (e.g. signposting what will be happening).	3	25	17	42	28
Encouraging casualties, victims or refugees to engage in Proactive behaviour (e.g. applying first aid, move location, assist others).	2	15	17	35	31
Maintaining a Sustained relationship with casualties, victims or refugees (e.g. keeping promises).	1	13	31	34	30

When examining average responses (on a scale 1-5), casualties were generally positive about their interactions with responders during SIMEX19. The majority of casualties reported that responders performed well or very well for all of the metrics explored, with all average scores being equal to or greater than 3.55, which equates to responders performing above average when taken together. Role-players reflected on the high level of honesty in communications (3.95) as well as encouraging casualties to be proactive in their own care, when this was possible (3.78). Supplemental qualitative data responses enabling participants to explain their answers (explored further below) indicated that permitting casualties to assist themselves or others was viewed positively when it was possible and was noted when it was absent.

However, examining the other ratings sheds light on areas where respondents performed less well. All three of the areas receiving higher volumes of less satisfied responses relate to the timing (**EARLY**), volume of interaction (**LITTLE BUT OFTEN**) and frequency (**SUSTAINED**). The highest number of responses graded at 3 or lower were in relation to casualties being given information early, which was followed by concerns relating to how sustained communication was. Finally, receiving small but regular pieces of communication received the highest volume of dissatisfied responses. These findings appear to indicate, then, that work can be done in relation to informing casualties early of what is happening, ensuring that updates are received regularly to reduce ambiguity and uncertainty. If a situation changes, it is necessary to ensure casualties are informed. On this note, the breaking of promises was included in one metric – cautioning in terms of making promises that cannot be fulfilled.

It must be noted that for all target behaviours there was a sub-set of casualties who rated responders as a 2 or lower, indicating that the desired behaviour had not been exhibited. Even when discussing honesty and feelings of safety, 9.4% (n=11) and 8.2% (n=9) felt that performance had been below standard. As expected, based on the above discussion, the greatest volume of ratings of 2 or lower was 24.3% (n=28) in relation to regularity of communication and signposting.

Table 3 – Summary overview of impact interaction had on role-players

Self-reflective Impact	Ratings				
	1	2	3	4	5
This communication / interaction made me feel safe .	1	8	25	39	36
This communication / interaction made me feel reassured .	2	17	21	43	29

So, whilst responders engaged in a wide range of *HELPS* strategies when interacting with casualties, and this was reflected in casualties increased feelings of safety and reassurance, the proactive and sustained elements were features that were perceived as less favourable. Similarly, there were several instances where individual exchanges and interactions failed to address the immediate needs and concerns of casualties, likely due to the wider demands of the incident. Some of these could be regarded as secondary or less important, but ultimately, they all had a collective and lasting impact on the experience and perception of those caught up in the incident.

Further texture to these statistics can be added by examining the qualitative comments made by participants that enabled them to elaborate on and explain their experience.

Positive Interactions

Overall, the positive interactions can be thematically broken down into areas of practical performance, speed of response, and being treated respectfully and kindly. Positive elements of interactions were highlighted as including being reassured and being regularly told what was happening. Friendly and informative responders appeared to be considered more favourably than those who were not. There was particular appreciation shown when this kindness was offered even though the responder was clearly otherwise in a rush. Overall, this led to a theme of being treated kindly and respectfully as forming an important part of the impression that casualties had of responders.

Role-players appeared to indicate that being practically dealt with in a manner that indicated the respondent cared about their wellbeing was viewed positively. For example, injuries being accommodated fully (e.g., during transport) was taken as a strong indication of genuine care and thoughtfulness. The general good performance of responders was indicated as being part of feeling reassured. Casualties also responded well if the response was quick, which included the speed of the response being initiated, as well as speed of action being taken at the scene itself.

Negative Interactions

These largely mirrored the themes indicated for positive ones, but their negative impact can be stronger and more longer lasting, so it is essential to address these.

Being treated abruptly or poorly influenced casualty impressions of the responders. Role-players provided examples of being spoken to abruptly or impression of responders seeming detached or disinterested (e.g., showing a lack of attentiveness). Others pointed out elements of what they felt represented poor practical performance from responders. Examples included: broken foot being moved; a spinal injury not being treated carefully; having a leg bumped and the pain dismissed. Failure to notice or act on serious conditions was raised too (e.g., notification that an unborn baby was no longer moving resulting in no action). There were several mentions from casualties that serious medical conditions were ignored, seemingly due to no organisation taking the lead. While some of these can be down to a lack of immersion or realism, it is important to consider that this can still have a negative impact on the view role-players gained about responders.

Countering the preference for response speed, delays and slow response were highlighted continually as resulting in negative affect. This led to a great deal of frustration, resulting in perceptions of dis-organisation and lack of resources at best, and dis-interest or lack of ability at worst. This indicates a further connection between performance and the perception the casualty had on the professionalism and capability of responders. While not relating to individual responders per se, a very strong indication of surprise was given as to how slow response can be. This indicated a perception of an overall lack of urgency, and in some cases even a lack of interest in the situation casualties find themselves in. While some of these delays are characteristic of real-world emergencies, it is important to communicate this to individuals who have never experienced this, to manage their expectations – a task that should be completed within the exercise as well as part of the pre-briefing.

An additional recurring element of negative interaction was the quality of communication by responders. This included both short-term consideration of immediate communications and exchanges with responders, as well as a longer-term view of how communication had been overall. Short-term issues took several forms, including feeling as though they were not being listened to (e.g., due to having to repeat information) and communication not translating into immediate action (e.g., responders on scene moving past those who felt they were in need). The longer-term view of communication related to promises not being kept, or a lack of follow-up action after an initial conversation. These findings indicated that what started as positive interactions came to be viewed negatively if there was no follow-up, which included not returning to the casualty/victim, or not thinking to provide some indication of when or how to receive updates.

While some of these point to areas for further development around guidance and deployment, it is also important to remember that the impact of emergency response exercises is a two-way process. Where responders are able to learn and improve their capabilities, individuals playing the roles of casualties and victims have their first opportunity to gain an insight into what these settings can be like. Notwithstanding the nature of immersive simulated learning environments, it is essential to ensure attention is given to all components of the training, as positive as well as negative interactions can have a lasting impact on the perceptions of those involved, as is highlighted in the sections below.

4.3 EXPERIENCE & REFLECTIONS

Responders

Those participating in SIMEX19 as responders were invited to take part in two surveys examining their views regarding the exercise. The first of these was delivered immediately before the exercise, aimed to capture the confidence levels of participants before they engaged with the event, while also gathering views of those who had participated in previous exercises as to their recollections of that experience. A link to the survey was sent to participating organisations for circulation prior to the event as part of their registration, and responses were gathered in person from players taking part in the international element upon arrival at the incident 'airport', which served as their entry point to the country of Mas. A second, similar survey was delivered post-exercise, looking at any changes in participant views and reflection on the exercise as a whole.

Participants included a mixture of those responding as they normally would to the simulated event, and those who had notional involvement, e.g. acting as equivalent agencies in the disaster-stricken country of MAS. There was an effort to promote continuity of responses between the first and second surveys by asking respondents to create a unique reference number. However, results indicate that different samples responded to each of the two surveys. It must therefore be kept in mind that responses do not come from the exact same cohort. Further, the response rate may have been harmed by the similarity of the survey instruments, with it being unclear to some that these were separate, and others questioning why they were filling out anything prior to the event at all.

Nonetheless, as a self-reflective addition to the evaluation framework, the original information gathered from the participants provided a unique insight into their personal experience and their professional engagement in such exercises. Some of these insights are outlined below, providing a general overview of their reflections.

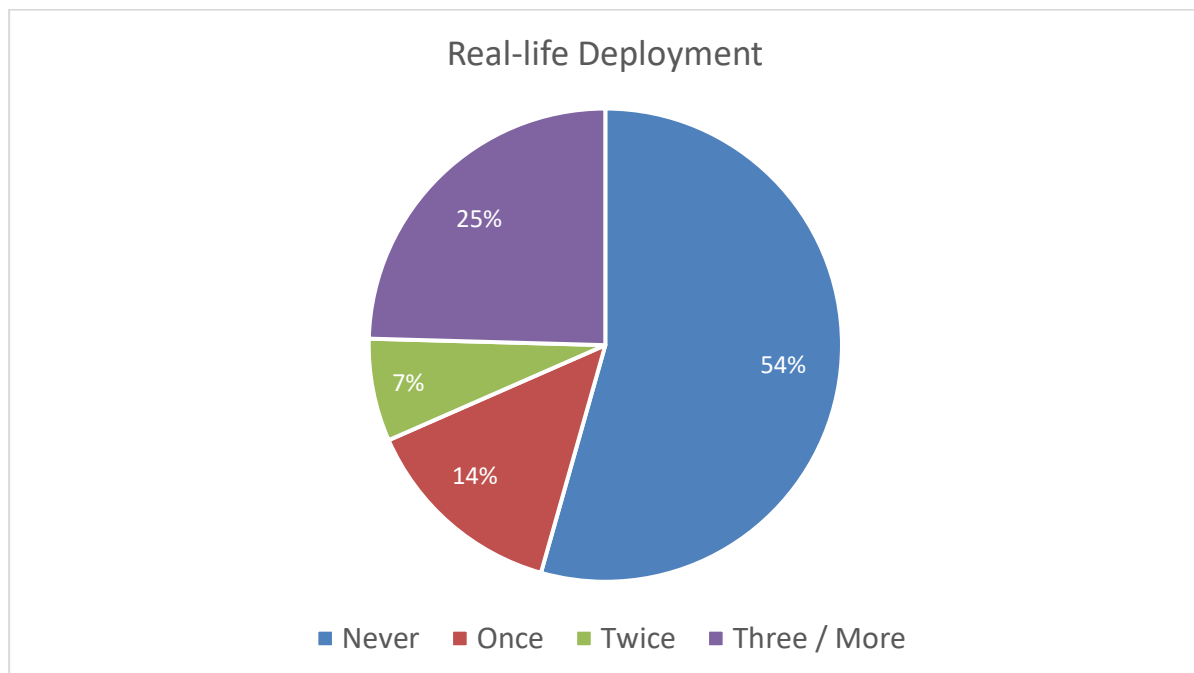
Demographics & Prior Experience

Table 4 – Summary overview of responses gathered from responders

	Gender		Age Range	Sector	
	Male	Female		Voluntary	Non-Voluntary
Pre-Ex (N = 89)	61.6 %	33.7 %	18-69 (Avg. 39.72)	71.60 %	22.7 %
Post-Ex (N = 68)	56.1 %	28.8 %	21-72 (Avg. 43.73)	69.8 %	30.2 %

Those attending had a wide range of experience, ranging from novices to individuals with 50+ years working in emergency response, reflective of the broad spectrum of those participating. Looking into more detail, when asked about any prior experience of operational deployment, over 50% of respondents stated no previous experience and another 30% only one or two calls to real-life incidents.

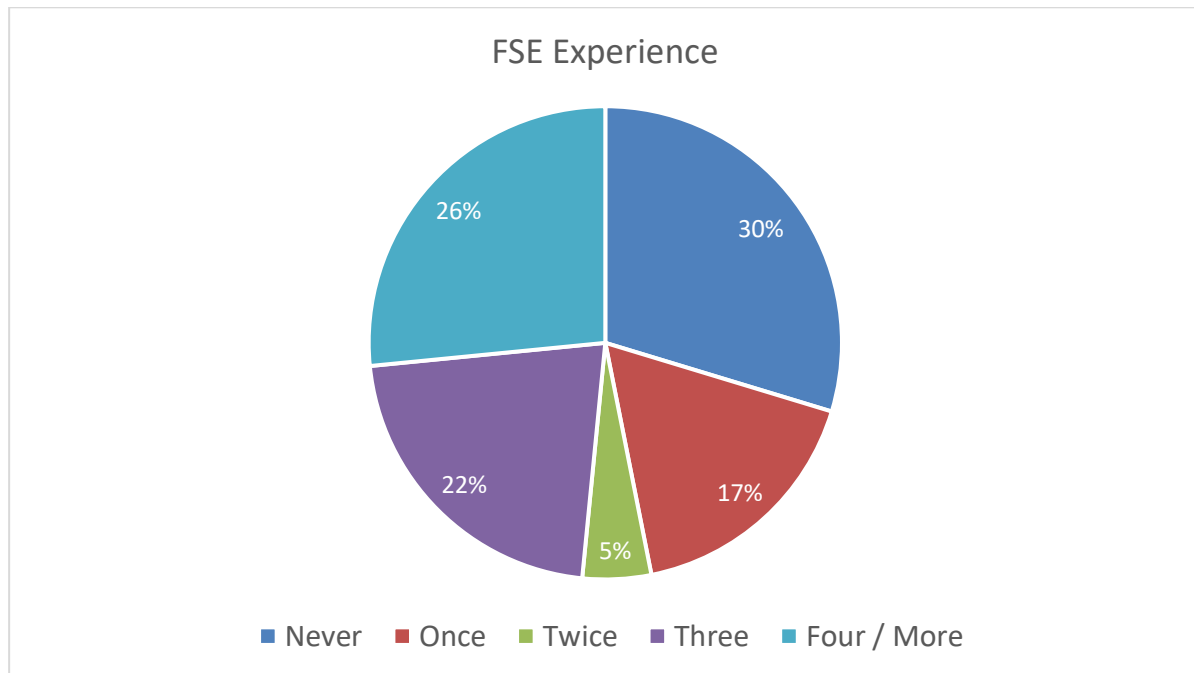
Figure 3 – Previous experience of deployment to real-life incidents



These figures reflect that while there is a broad range of experience amongst the responders, the majority during the SIMEX19 had not had real-life experience.

Further, when asked about experience with full-scale exercises (FSEs), over 35% stated that this was their first time attending one, while 41% had attended either one or two previously.

Figure 4 – Previous experience of attending Full-scale Exercises (FSEs)



Professional Development

Respondents were asked to rate (0-10) their confidence to three key questions in both the pre-exercise and post-exercise surveys, with these questions relating to the individual's own abilities, their team's abilities, and the ability of their team to work with others.

Table 5 – Summary overview of average confidence ratings provided by responders

Question	Pre-Ex	Post-Ex
...your own ability to work on a mass disaster or emergency.	6.51	7.35
...the ability of your team to work together effectively in a mass disaster or emergency.	7.60	7.68
...the ability of your team to coordinate and effectively work with other agencies in a disaster or emergency.	7.30	7.35

Prior to taking part in the exercise, respondents generally rated their team's abilities quite highly, but were inclined to express lower levels of confidence in their individual abilities. The question relating to the individual's own skill produced the greatest variation in response, with a wide range of responses. With most rating their confidence around 7 or above, the mean ratings for each response were slightly higher. While these figures might not reflect the same individuals before and after the exercise, overall, they point to an increase in their confidence – not only when considering their own abilities, but also when looking at their teams as a whole.

While some of these changes will be down to individuals' first-time experience of a simulated large-scale incident, it is also worth noting that the team deployment and cooperative engaged throughout the 3 days provided ample opportunities to expand on their knowledge and expectations. Particularly when it comes to collaboration within and between teams, exercises provide a unique chance for individuals to gain first-hand experience. It is only if the tasks and scenarios they face in these settings drive the appropriate learning, and where organisations provide suitable briefings and necessary preparations,

that individuals will be able to test their knowledge and expand on their capabilities – preparing them for deployment to real-life incidents.

Team Integration

Focusing on how they deployed and coordinated with other organisations, respondents were asked a series of questions about their organisation's involvement. These examined a range of factors, with an emphasis on how the individual and their team had been treated and utilised during the event. They focused on the experience as part of the simulated incident, rather than views about the administration of the event itself.

Table 6 – Summary overview of average ratings relating to deployment and integration across the simulated incident

Statement	Avg. Rating
I felt that the contribution of my agency was valued.	4.22
I felt that my personal contribution was valued.	4.27
We were taken seriously by other participating agencies.	4.24
Suitable provision was made so that our agency could fully contribute to the deployment.	4.02
Concerns we raised during the deployment were dealt with appropriately.	3.83
My agency was effectively integrated into the deployment.	3.98
The capabilities of our agency were put to good use.	3.90

The scores were all relatively high (on a scale of 1-5), reflecting a good integration and provision of support across the scenario, as well as a sense of being valued and being taken seriously. This points to a good collaboration, especially on the ground, with good working across agencies. This reinforces the need to ensure that organisations are clear about their respective capabilities, look at how these integrate with others during incidents and assess potential areas for improvement. These objectives can only be achieved if teams are briefed and informed appropriately, to make sure they make the most of opportunities provided during the exercise. Additionally, it is essential that the scenarios and tasks they face require their collaborative engagement, forcing them to exchange knowledge and expertise with others to achieve the common goals and desired outcomes.

Exercise Experience

Looking in more detail at what components of the scenario and simulated incident drove the most engagement and interaction, respondents were asked to rate (1-5) the quality of various aspects of SIMEX19, to better understand how they felt the exercise served the overall objectives and met their expectations.

Table 7 – Summary overview of key components of the full-scale exercise

Statement	Avg. Rating
Realistic	3.40
Immersive	3.49
Memorable	4.07
Inclusive	3.55
Useful for Learning	4.28
Well Time Managed	3.25

The most highly rated aspect overall was the usefulness for learning, while the memorability of the event was also fairly highly rated. While none of the ratings indicated overall dissatisfaction, the realism and immersion of the event did not achieve particularly high scores, and neither did aspects of time management of the event.

Drivers to Immersion

This was further supported by the qualitative comments respondents provided, where discussions around realism could be divided thematically into two fairly distinct groups: realism of particular activities, and realism of the experience and feeling of the exercise overall. Some responses provided a holistic view of realism, praising matters reflective of live incidents (e.g. “General chaos”; “Long days in unfamiliar circumstances coping with the unknown was tiring. It was real.”) as well as the realities of inactivity (e.g. “Arriving in confusion and waiting around”; “The amount of time sitting around.”). Despite this acknowledgement from some that waiting around was realistic, the issue of waiting a lot was seen as a negative by many responders, with a related theme emerging of wasted time (discussed below).

The frame of reference more commonly used to discuss realism was to examine specific activities. Participants would highlight particular events, injects and activities as being more realistic than others, indicating a mentality that is overall less holistic and more focused than those considering the event in general. Some of these included:

- The environment: the building collapse simulation at Fort Widley was cited as replicating a real event. This was coupled with comments about the role-players contributing to this environmental efficacy. Related was the simulation of the country and civil unrest, with roadblocks, armed guards and insurgents being cited as adding to the environmental realism (however, for some this was not a positive element of the exercise).
- Meetings and coordination: Meetings, particularly at OSOCC, were cited as being realistic. This was coupled with mentions of the way in which organisations were deployed.
- Specific Scenarios: The bulk of responses cited scenarios particular to the respondent's organisation and their activities. Within these responses, the greatest impact came from simulated dynamic events, e.g., unexpected emergencies that had to be responded to. Respondents also tended to cite events that they themselves had administered.
- Dynamism: This element of unexpectedness and dynamics combines with the mention of civil unrest and other dynamic environmental events cited above. This seems to indicate that ambiguity and unexpectedness built into elements of the exercise enhanced realism [however, note that this had the opposite effect at times of causing great frustration due to the delays induced, which actually brought many out of the immersion due to awareness of practice and simulation time not being utilised].

Barriers to Immersion

Often, if the above realistic elements were disrupted or denied, this would result in a break in realism. For instance, some responders noted elements of the environment and organisation that were not realistic (e.g., a lack of a staging area that would be present in a live environment; or the relative lack of space being covered). Role-players were consistently mentioned alongside barriers to realism, specifically when they did not have appropriate information. This appeared to remind respondents of the simulated nature of the exercise. Overall, elements that reminded responders that they were partaking in an exercise – especially if this caused them to question the level of organisation – appeared to result in a break in realism and immersion.

Overall, participants praised the understanding they gained about the complexity of real-world scenarios and how these play out, as well as the opportunity to work alongside other agencies. This was reinforced by the ability to observe professional practice, feeling challenged and involved, and the opportunity to test systems and processes. Nonetheless, others reflected on the non-scenario delays, feeling dismissed or not integrated, as well as frustration at information being passed down being of poor quality and misleading. Clearly this range of experiences, pointing to issues around exercise design and delivery, but also to the involvement across agencies, raises some concrete areas for development – some recommendations are outlined in Section 6.

Role Players

Similar to those participating in SIMEX19 as responders, individuals who joined the exercise as role-players were also asked to reflect on their experience. The call for role-players attracted responses from volunteers across the local area, with the majority coming from nursing programmes, other unspecified university courses and local colleges. The goal was to capture views and expectations of those participating in the exercise, to better understand their experience and impact in can have on their understanding of how the emergency services operate, the challenges faced during disaster responses and how resilience can be developed across the wider community.

Questionnaires were sent out prior and after the exercise, looking at expectations, reviewing the influence the exercise could have their knowledge and opinion of the emergency services, as well as some questions on their own personal reflections. While these were not immediately matched, with different people responding to either questionnaire, the sample across both was broadly similar and insights are outlined below.

Demographics & Expectations

Table 8 – Summary overview of responses gathered from role-players

	Gender		Age Range	Previous Participation
	Male	Female		
Pre-Ex (N = 67)	12% (n=8)	88% (n=59)	18-47 (Avg. 27)	43%
Post-Ex (N = 24)	21% (n=5)	79% (n=19)	18-77 (Avg. 38)	38%

While the high percentage of female participants is explained by the larger response from students on the nursing programme, there was a good range of ages represented in the role-players. Additionally, several of these had participated in previous exercises, attesting to their interest and willingness to contribute to such activities.

Participants were also asked about what they expected to gain from their participation, with answers focusing on increasing their knowledge of disasters, seeing how responders operate, understand the challenges faced in such environments and getting a first-hand perspective of casualties.

Figure 5 – Overview of what insights role-players expected to gain through participating in SIMEX19



When looking at their responses after the exercise, additional answers included positive opinions about the emergency services, increased awareness of their own behaviour in such environments and an improved confidence in the abilities of the organisations they interacted with. All of these point to the importance of maintaining a good engagement with individuals throughout the exercise and the positive impact these activities can have on long-term community resilience.

The role-players were also asked what they had learned from the exercise. A number of the responses here shed further light on the interactions the casualties had with responders as well as with the exercise as a whole. Role-players indicated that they had gained an appreciation for the distressing nature of being a casualty in this environment. This was heightened when linked to elements relating to the response (e.g., feeling ‘hopeless’ if help was not forthcoming). Empathy and respect towards responders themselves were indicated too, with professionalism and attention to detail being noted, even though there were instances of frustration towards responders if there was a feeling that they were not being duly timely careful or respectful. Similarly, one overwhelming learning outcome for role-players was that they had gained an insight into the possible realities of disaster response, with the complexity and chaotic nature of these situations being noted. The theme that emerged most strongly here was surprise at how slow response can be, but an increased appreciation for the dynamic and complex factors that lead to this.

When asked about areas for improvement, role-players mentioned the need to improve communications between emergency responders and casualties and address the time delays before communication was established. Out of character – echoing some of the points raised by the responders – role-players highlighted the need to maintain immersion to ensure scenarios are played out in full, allowing for more interactions and unfolding injects, which would require all those involved to stay in role. This would not only impact on the ability to better test and evaluate procedures but would also allow individuals to review process from the acute phase of scenarios all the way to hand-over or resolution.

Finally, a stand-alone question of about the willingness to participate again in such an exercise, almost 90% of individuals say they would return next year. While this still leaves some space for improvement, it reflects the overwhelming positive engagement and experience role-players had during SIMEX19.

4.4 SPECIALIST PROJECTS & INTERNAL REPORTS

Finally, several organisations and agencies carried out stand-alone assessments during the incident response or produced internal reports based on observations across the exercise. Some of the main lessons and insights are summarised below, with details on who to approach for additional information. While not all agency-internal reports will be made available, all organisations listed below offered to share some the lessons identified. Additionally, key recommendations and feedback from

these reports and debriefs were reviewed by the evaluation team and included in this final report, with approval of the relevant organisations.

Colour Blind Awareness

The Colour-Blind Awareness (CBA) NGO carried out a basic stand-alone evaluation, focused on multi-agency coordination and shared spaces used throughout the exercise. Looking at signage, visual communication and information exchange, CBA considered the arrangements across various locations and how these provisions would impact individuals with colour vision deficiency (CVD).

Considering that SIMEX19 had over 2,000 individuals attending, and colour blindness affects approximately 1 in 12 men (8%) and 1 in 200 women in the world, it is likely that at least 100 (5%) participants in the exercise had some form of CVD. This raised some concerns with signage across the sites and tabards/uniforms worn by staff across the exercise. In coordination spaces, some issues were highlighted relating to maps and visual charts used to share information across agencies. While these might be clear to the majority, individuals with CVD may not even be aware of colour-coding or be unlikely to ask for clarification (e.g. one of the colour blind participants interviewed during the exercise was tasked with placing coloured dots onto a line but he said he could not tell the difference between the dots as the colours he was asked to use were orange, green, blue and purple.). Some visual examples of these are included in the Appendices at the end of this report, but it is recommended that organisations review their current provisions and consider suitable changes to their internal arrangements. While this can have a significant impact on clarity and communication of essential information such as emergency exit routes, this has also implications relating to UK and EU regulation and compliance with official guidance.

For more information, please contact Kathryn Albany-Ward ([Colour Blind Awareness](#)) and see also see Annex C to the Guide to Safety at Sports Grounds ([SGSA](#)).

Environmental Agency

The Environment Agency conducted incident responses to two scenarios during SIMEX19, a sewage pollution incident caused by power cuts following a severe storm and an opportunistic dumping of waste into a river. Working alongside Southern Water, Hampshire Fire and Rescue and Raynet, the EA deployed 32 staff at both an operational and tactical level. We aimed to test our staff in a high-pressure environment, with a mixture of experienced and new duty staff participating. Following the exercise our resilience team have undertaken imbedding of learning, further training and amendments/improvements to procedures where necessary.

For more information on this activity, please contact Douglas Lisle ([Environment Agency](#)).

Sphere & CBM

During SIMEX19 a two-hour “Sphere and Inclusion Workshop” was run six times, introducing participants to the Sphere Handbook and the Humanitarian inclusion standards for older people and people with disabilities. A total of 115 participants were reached during the six trainings, including NGO staff, academic staff, health and medical workers with an interest the humanitarian sector, university students on humanitarian degree programmes, and college students with career interests in civil protection and the military. The workshop was designed to run with no projector and no PowerPoint slides required, introducing participants to the HHoT app (Humanitarian Hands-On Tool), high interactivity and engagement.

For more information about the workshop, please contact Tristan Hale ([Sphere](#)) or Gordon Rattray ([CBM](#)).

Evaluation of FSE (Full-Scale Exercises)

The project captured the perspectives of experienced evaluators on the current practices within evaluations of full-scale emergency response exercises. Carrying out several interviews with subject matter experts from across the emergency services, including participants from the SIMEX19, the goal was to provide an insight into best practice in order to improve evaluation frameworks. The report identified essential components within existing evaluation frameworks, drawing on training and learning theory, in order to develop guidance and good practice.

For more information on the report, please contact Michael Humann (University of Liverpool).

Virtual Reality Training

For the first time during SIMEX19 virtual reality was used to train participants, especially USAR teams. Sponsored by XVR Simulation, members of USAR teams were able to make use of virtual reality scenarios to do assessments and plan USAR activities. Scenarios that are difficult and expensive to create in real life, were simulated in VR environments. Although it was an experiment, the teams were very enthusiastic about this opportunity. Lessons learned focused on the need to involve USAR experts in the creation of scenarios and to have USAR trainers present during the VR activities. Building on these lessons, the goal is to consider more targeted design activity prior to the exercise, with a view to being fully involved during SIMEX20.

For more information on this activity, please contact Steven Lohman ([XVR Simulations](#)) or Ronald Christiaans (UNDAC).

Contact details for the above-named individuals can be requested from The SIMEX Series exercise director.

5. Recommendations

Drawing on the various evaluation strands, based on observation and feedback, we have outlined a range of clear recommendations across the whole exercise. These are not targeted at specific organisations and agencies but provide an overview of key lessons identified and issues highlighted.

In order to provide a more comprehensive structure to the list of recommendations, a separate matrix was utilised to assess considerations unique to each of the points raised. Applied to each one, these related to 3 separate categories:

Urgency: this relates to how safety critical and urgent this recommendation is.

Low	Medium	High
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Timeframe: this relates to the potential time that it would take for the recommendation to be implemented and meaningful changes to be reflected in policy/procedure.

Short-term	Long-term
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Organisational Level: this relates to the organisational level of commitment that would be required to introduce and implement, in order to see meaningful impact on procedure.

Operational	Tactical	Strategic
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Rating for each one of these was carried out by the evaluation team, drawing on their expertise and experience. These were also presented to the participating organisations in a first draft, to gather additional views and comments as to their accuracy and validity for their individual context. In cases of broad disagreement, the individual category was left blank. This approach allowed for a more solution-focused approach to the recommendations and provided a common ground to discuss potential next steps to address these.

Below is a table with key recommendations, presented in no particular order and numbered for reference-purposes only.

No.	Recommendation	Urgency	Timeframe	Level
1	Command control and leadership should be stronger enforced, ensuring that tasks and activities are completed and reported to the relevant groups, ensuring responsibility and accountability maintain the urgency within the incident response.	Medium	Short-Term	Operational and Tactical
2	Leadership should also clearly allocate sub-groups with specific tasks, ensuring coordination between agencies and organisations is driven by clear objectives and requirements, which need to be addressed and be reported back on.	Medium	Short-Term	Operational and Tactical
3	Set up a higher-level command group (notional or in-play) drawing on key subject-matter experts from across all agencies, to facilitate coordination and tasking of specific teams, ensuring that reporting and activity is maintained throughout.	High	Short-Term	Strategic and Tactical

4	Arrange pre-exercise briefings and preparation for those in role within UNDAC and OSSOCC, to ensure continuous operation and drive during the simulated incident are maintained, by managing expectations and reviewing skill levels.	High	Short-Term	Strategic
5	Briefings prior to the exercise or as part of the early stages of the incident should include detailed information of what individual organisations' capabilities are, to ensure they are integrated more effectively into the overall coordination and structure of the response.	High	Short-Term	Tactical
6	Guidance for communicating with casualties should be reviewed or, if missing, implemented, aimed at maintaining clear lines of communication throughout the process, in order to minimise risks and provide immediate reassurance to those affected.	High	Short-Term	Tactical
7	Provide more comprehensive profiles for victims and casualties, giving responders more information and detail on specific injuries or backstories, complemented with experienced role players.	Medium	Long-Term	Tactical
8	For unconscious casualties allocated companions or control players need to make sure needs and requirements can be communicated.	Medium	Long-Term	Tactical
9	Allocate dedicated control players, to ensure coordination and communications is maintained and, if required, empower them to intervene on specific injects or deal with potential conflict.	High	Short-Term	Strategic
10	Control players and directing staff should be tasked with intervening in cases where full procedural cycles or specific equipment are ignored or not fully utilised, to maximise the opportunity for learning and maintain exercise immersion.	High	Short-Term	All Levels
11	There should be clear allocation of roles and tasking for students on university programmes, balancing their opportunity for learning with the need for the exercise to progress. This should be facilitated by dedicated staff, guiding them through the process and intervening when necessary.	High	Short-Term	Strategic
12	Agencies should review their current provisions in place to assist staff, partners and stakeholder with colour vision deficiency, to ensure they are not unduly affected by documents or information being shared in unsuitable formats.	Medium	Long-Term	Strategic

An additional category that was proposed relates to the potential cost or expense for specific recommendation, considered against operating arrangements and available resources. While this was not assessed during the current evaluation, in future it would be useful to include considerations around economic dimensions of any intervention – although this would require drawing on appropriate expertise and organisational insight, to provide an accurate insight.

Overall, the rating of the recommendations is not organisational specific, and instead is more focused on capabilities and deployment requirements. As such, each organisation should use the same framework to review individual recommendations as they apply to their context and consider if these ratings would be different and particular reasons for such an assessment.

6. Exercise & Training Learning

Looking beyond the immediate learning and training opportunities for responders, the exercise is part of the ongoing work being carried out within The SIMEX Series, looking at identifying best practice when it comes to the design, delivery and engagement during full-scale exercises. Aimed at capturing lessons from regular practice and drawing up guidance to assist in the development and evaluation of various types of simulated training environment, we endeavoured to gather feedback and observations from partners, responders and individuals involved in this year's exercise.

Some of these were gathered throughout the exercise, but the majority of them were collected during debriefs, working-group meetings and internal reports from individual agencies. The goal is to outline procedures and arrangements put in place to facilitate learning, review the impact some of these had on the delivery of the exercise and highlighting areas for further development. Not limited to this particular year and intended as an ongoing space for improvement across the exercise series, recommendations are structured across wider themes and accompanied by targeted suggestions for future events.

Stakeholder Engagement

Review of the procedures in place to engage with partners and stakeholders before, during and after the exercise, to maximise their involvement and participation in all aspects of the event.

- More consistent and targeted planning with individual organisations, ensuring that their inputs are translated into injects and clearly defined objectives. Disparity across the experience of organisations points to areas for improvement, ensuring that the opportunities are maximised within as well as between agencies.
- Exercise planning should make more explicit consideration around using the simulated incidents to trial new or alternative system and tools. Drawing on safe-learning environments and experienced practitioners, this would provide unique settings where to review equipment and procedures. Similarly, stand-alone projects and dedicated activity suitable for the exercise should be identified earlier, in order to ensure options are in place.
- Several instances where team leaders or internal evaluators called time-out, to brief their staff and ensure activity was in line with guidance and policy. As this was not done consistently across areas and organisations, there is the need to raise this more explicitly, to make sure these opportunities are maximised. This relates to requests for immediate feedback, from overseeing staff or SME evaluators, to share reflections then-and-there so that learning is not lost.

- Similarly, several comments pointing to the unclear overlap between MSc students in key roles and the overall priority and objectives of the exercise, as it should serve all, in the most effective way possible. As per the arrangements above, much clearer procedures need to be in place in instances where students require additional guidance and instruction, in order to keep the scenario progressing. Opportunities for learning should not unduly or negatively impact the simulated incident.
- There is a clear need to involve more organisations in high-level meeting, both in-exercise as well as part of ExCon, to ensure clarity is maintained. While arrangements for this were outlined during the exercise, few organisations provided facilitators or key points of contact.

Incident Scenario & Narrative Learning

Aspects relating to the design and development of the scenarios, considering individual injects as well as factors that impacted on the immersion of responders and the fidelity of the simulated environments.

- UNDAC played more of a liaison role than a coordinating body as there were not enough players to stimulate more coordination of activity. Additionally, the lack of press releases and media interactions meant that it was very unrealistic and difficult for situation awareness to be maintained and understood. The addition of press and media interaction would create more pressure and activity, increasing the need for coordination and regular communication.
- Maximising the opportunities inherent within scenario-based learning, it is important to map key deployment challenges and objects onto individual injects and incidents. Rather than aiming at replicating 'real world' conditions, the goal is to expose individuals and teams to the pressures and tasks of unique operational settings.
- Looking to enhance realism within the exercise, several organisations requested evolving scenarios, with clear pathways and consequences to decisions. Similarly, these discussions raise the possibility of creating more difficult scenarios, with challenging and capability testing tasks. This points to the need for early engagement from the organisations for exercise planners to deliver on these, while also raising considerations around the learning opportunities for those involved.
- Related to the point above, more clarity is needed around the training and learning arrangements maintained throughout the exercise. Examples of good interventions from team leaders highlighted the positive impact of in-situ learning and feedback, where less experienced responders can draw on expertise and guidance. Similarly, it is acknowledged that organisations cannot be tested too far individually if this leads to point-of-failure, where learning time for one group may translate to delay for another. Consistent and clear procedures need to be in place, to maximise learning opportunities while still maintaining scenario immersion.

Exercise Management

Details around arrangements in place during the exercise, relating to sites, directing staff, logistics and all aspects linked to Exercise Control.

- Clear maps of locations, outlining key requirements and injects, should be available to directing staff and facilitators at ExCon. This would provide an overview of role-players and moulage teams, with local catering provisions and transport arrangements.

- ExCon and Role Player Management to be co-located to ensure each group can interact easily as required throughout the exercise. Emphasise the requirement for participating organisations to have a presence in the ExCon.
- Ongoing discussions around the balance between the national and international components of the exercise also raised potential issues during the changeover, with potential areas of oversight. Consideration should be given to how to better bridge this, encouraging ongoing activity and integration, while also ensuring evaluation activity covers both components.
- Consider on-going value of National exercise and whether to continue running two exercises given the increased complexity this presents to exercise organisers. If National exercise is maintained; consider running alongside second day of international exercise instead of first day.
- Review of current Handbooks, to ensure information is consistent and accessible to all participants. Consider levels of details for specific participants, to avoid unnecessary or irrelevant information.
- Review of current tabards and high-vis jackets, making sure they are compliant with colour vision deficiency (CVD). Guidance stipulates the combination of colour with roles clearly written out, ensuring enough colour contrast.

Role Player Management & Character Briefings

Overview of arrangements in place by the role-player management (RPM) team, and details on the briefings and deployment of role players (RP) throughout the exercise.

Role Players

- Reflecting on the inconsistencies between role-players and characters they played out, it is important to create a greater level of consistency. A basic template for characters and profiles should be distributed across all organisations during the planning, to make sure information is available for RPM who can then prepare and brief RPs accordingly.
- Additional to wider consistency, it is essential to draw on experts to ensure casualties, victims, refugees and IDPs have a comprehensive and coherent narrative to follow. Role-players should be given sufficient information, consistent with real-world expectations, in order to provide immersive and engaging interaction during scenarios. This needs to be balanced against over-complexity as previous exercised have been negatively affected by this.
- Similarly, systems should be in place for non-responsive casualties or more complex conditions, where RP are not reliant on memorisation and responders are able to draw on other sources of information. This could be either in the form of written-out briefs (e.g. casualty cards) or informed companions of the unresponsive casualty.
- Suggestions included the addition of casualties completing full journeys, from extraction to hospital and beyond, to review full procedures and arrangements. Re-introduction of children and minors, with the appropriate provisions, would also add several considerations around safeguarding and procedural arrangements.

Role Player Management

- Lessons learned following feedback from Day 1, resulted in better allocation of Directing Staff. Facilitating the integration and deployment of teams arriving to specific sites, this role coordinated positioning of role-players and scenario injects, maintaining a steady flow and incident narrative.
- A monitoring system should also be in place during in-exercise briefings and meetings, with Directing Staff present at these, to capture the current operating picture, and review if any

information needs clarifying or updating. This will ensure a snapshot of the information held by organisations, while also providing an opportunity to ensure mistakes or errors do not delay ongoing activity and identify if changes in injects or RP deployment are required, reinforcing the need for ExCon and RP management to be co-located.

- Drawing on the on-site Directing Staff, where participating teams dealt well with volume of casualties, a more dynamic response would create the possibility to stress this further, with quick deployment of more casualties. This should be done in coordination with the participating team's ExCon member, to maintain realism and ensure learning remains a priority.

Immersion & Fidelity

- Several times role-players, responders and evaluators pointed to instances where steps were skipped, tasks not fully carried out or equipment available not used. Missing unique opportunities for training and learning, it is essential that immersion is maintained, and actions played out in full (unless explicitly stated). The full-scale exercises create unique opportunities, and it is incumbent upon all to make the most of these chances to practice.
- Clear distinction needs to be made between staff who are in play and those facilitating or observing. Reinforced during briefings and ensuring that they are clear of their role, they should endeavour to stay out of the way of responding teams. In specific locations, where possible, distinct boundary areas should be established.
- Regardless of role, if staff, responders or role-players are not engaged in scenario-related or evaluation activity, they should be mindful and respectful of those that are. If necessary, directing staff should be tasked with asking those individuals to leave the area, to avoid distracting or interrupting others, negatively impacting the immersion of the scenario.

Evaluation

Arrangements relating to the development of the evaluation framework and the preparation for the evaluators, as well as the capture of feedback, debriefs and internal report from partner agencies and organisations.

- Although outlined in the condition for participation, there is a need to increase the number of evaluators (across both national and international components). The current evaluation is limited by the number of sites and incidents that were observed, while also impacted by the deployment of resources to the collection of pre-ex assessment data for those entering the exercise (Responders & Role-Players).
- Some sites should include a casualty/patient logging system, with the ability of cross-checking entry and exit figures, to assess treatment and processing. This could then be compared with RPM figures, to review procedures and timings.
- Some locations should also accommodate feedback sheets, on top of the dedicated evaluators. Particularly near EndEx points (e.g. triage tents, hospital, transport hub), role-players could complete reflections and observations in-situ, before moving on.
- Casualty surveys should include an option to group per type of affected population (e.g. IDP, Refugee, Casualty, Public). Rather than relying on self-identification or RPs putting generic information in, this would provide more consistent information on their experience, facilitating more comprehensive analysis and comparisons.
- The responder surveys resulted in different cohorts between pre/post-ex, due to length and confusion about the purpose of the questionnaire. A far shorter instrument focusing solely on

confidence ratings in the pre-exercise survey is recommended. A separate version should be used for students playing notional roles, to avoid skewing results.

To gain a better understanding on how to maximise these opportunities and increase the positive impact these can have on responders' competence as well as confidence, it would be important to look into more detail what components of the scenario and simulated incident drive the most engagement and interaction. Building on the regularity of The SIMEX Series, the goal is to expand and improve on this data, to better capture the positive impact these types of exercises can have on individuals participating. Contributing to their professional development, the goal is for these simulated environments to provide a unique space where they can test their capabilities, increase their competencies and grow their confidence.

7. The SIMEX Series Legacy

Looking beyond SIMEX19, the SIMEX Series also works on increasing learning and understanding beyond the activities carried out during the 3-day exercise. Reflections on some of these are outlined below, with plans and recommendations for next year's event.

Stakeholder Engagement & Knowledge Exchange

Building on the unique learning environment provided by the annual SIMEX, current participants and potential future partners are encouraged to engage with the team as early as possible. The goal is to ensure individual requirements can be accommodated and specific objectives can be facilitated.

- Organisations should identify specific learning outcomes and objectives as part of their internal development activity, in order to design scenarios and injects which can test these effectively.
- If new procedures or tools are to be tested, these should be clearly outlined together with the partners, and bespoke evaluations frameworks developed.
- Drawing on a range of subject matter experts and academic resources, individual organisations should consider stand-alone projects and small-scale evaluations that they would like to carry out during the exercise.

The aim is for the team to provide an independent and robust evaluation framework, where organisations can test and assess their procedures, ensuring lessons are identified and recommendations captured. By collaboratively creating immersive learning environments, the SIMEX series and partners can ensure that tools and procedures are fit for purpose and suitable for deployment to real-life incidents.

Observer Programme

Providing a unique opportunity for external observers and potential partners, each exercise aims to facilitate a comprehensive and wide-ranging experience for those looking to attend the event.

Moulage Academy

As an offshoot from the annual exercise, the moulage academy has become an integral part of role-player management and has expanded knowledge and expertise across several areas.

- Role-Player Management has developed a set of lectures and inputs that will be available to all partners throughout the year in preparation for the exercise. These will cover aspects around management, role-player briefing and logistics, encouraging more organisations and participants to get involved.

- As the work is being showcased during the exercise, the team will ensure that specific procedures and injects are monitored and recorded. This will be cleared through prior approval with the relevant organisations, to ensure that this does not distract from the exercise activity. The goal is to capture key scenarios for future training, making this material available to key partners.
- The team will distribute comprehensive templates for organisations to outline key characters, profiles and injuries that they would like to include in future injects. Ensuring that organisations have the opportunity to outline their requirements and priorities, this will allow the team to work together with partners and ensure key learning outcomes can be achieved by drawing on realistic and immersive scenarios.

Looking to expand on this activity and ensuring that learning is shared as widely as possible, it is essential that partners engage early with the team to ensure their needs and requirements can be accommodated.

Open-Day Engagement

Building on the ongoing cooperation and engagement in preparation for the annual exercise, the organisations and partners have reiterated the benefit of organising an open-day event prior to the main exercise.

- This will provide a space for organisations to showcase their activities and inform members of the public of the work they carry out during deployment.
- Potential role-players have the opportunity to meet some of the organisations and familiarise themselves beforehand.

Additionally, the goal is to replicate some of these activities during the exercise in May, providing the opportunity for a wider range of audiences to meet and engage with each other out of exercise. The plan is to create spaces and activities, for organisations to showcase capabilities, discuss their roles and exchange ideas around improved cooperation. These will be scheduled into the exercise, providing additional inputs and workshops for responders as well as role-players. This will maximise the opportunities for knowledge exchange and expand on the impact of the exercise beyond the simulated training scenarios.

Finally, drawing on the potential legacy and wider impact of the exercise, it is important to engage members of the public early. Focusing on the local population, this provides a unique and unparalleled opportunity of building communal resilience and understanding. This is an area that has received very little attention across all areas of full-scale exercising, despite the fact that it addresses the fundamental need to establish trust and confidence amongst those most likely to be impacted during disasters and emergencies.



Appendix

All relevant forms, scales and questionnaires are available upon request from the SIMEX Series team.

For any queries or further information, please visit the SIMEX Series website (<https://thesimexseries.org>) or contact the exercise director (phil.crook@thesimexseries.org.uk).



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